Applicants maintain that new claims 53-58 and the amendments to claims 13, 16, and 17 do not raise any issue of new matter. Support for amended claim 13 may be found in inter alia in the specification, as originally filed, at page 58, line 33 through page 59, line 16; page 70, line 7 through page 78, line 10; page 82, line 29 through page 83, line 17; page 112, line 21 through page 114, line 8; page 167, line 31 through page 173, line 26; page 175, line 11 through page 177, line 5; and page 189, line 14 through page 193, line 11. Support for amended claims 16 and 17 may be found inter alia in the specification, as originally filed, at page 48, lines 15-21; and page 49, lines 2-8. Support for new claim 53 may be found inter alia in the specification, as originally filed, at page 70, line 7 through page 74, line 5. Support for new claim 54 may be found inter alia in the specification, as originally filed, at page 74, line 7 through page 75, line 3. Support for new claim 55 may be found inter alia in the specification, as originally filed, at page 75, line 24 through page 76, line 29. Support for new claim 56 may be found inter alia in the specification, as originally filed, at page 76, line 30 through page 78, line 10. Support for new claim 57 may be found inter alia in the specification, as originally filed, at page 82, line 29 through page 83, line 17. Support for new claim 58 may be found inter alia in the specification, as originally filed, at page 112, line 21 through page 114, line 8.

Accordingly, applicants respectfully request entry of this Amendment.

Restriction Requirement Under 35 U.S.C. §121

In the January 14, 2002 Office Action, the Examiner to whom the subject application is assigned required restriction under 35 U.S.C. 121 to one of the following allegedly distinct groups of

invention:

I. Claims 13-18, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the first moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the nitrogen atom;

II. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the second moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the nitrogen atom;

III. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the third moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the nitrogen atom;

IV. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the fourth moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the nitrogen atom;

V. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the fifth moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the nitrogen atom;

VI. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the sixth moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the nitrogen atom;

VII. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to

compounds, compositions and method of use of the compounds where R_3 is the seventh moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the nitrogen atom;

VIII. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the eighth moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the nitrogen atom;

IX. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the ninth moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the nitrogen atom;

X. Claims 13-15, 19-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the tenth moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the nitrogen atom;

XI. Claims 13-15, 19-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the eleventh moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the nitrogen atom;

XII. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the first moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the carbon atom;

XIII. Claims 13-15, 19-23, 25, 27-31, 41, 42 and 45, drawn to

compounds, compositions and method of use of the compounds where R_3 is the second moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the carbon atom;

XIV. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the third moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the carbon atom;

XV. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the fourth moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the carbon atom.

XVI. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the fifth moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the carbon atom;

XVII. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the sixth moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the carbon atom;

XVIII. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the seventh moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the carbon atom;

XIX. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the eighth moiety in the definition of R_3 and it

is bonded to the pyrimidine ring through the carbon atom;

XX. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the ninth moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the carbon atom;

XXI. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the tenth moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the carbon atom; and

XXII. Claims 13-15, 20-23, 25, 27-31, 41, 42 and 45, drawn to compounds, compositions and method of use of the compounds where R_3 is the eleventh moiety in the definition of R_3 and it is bonded to the pyrimidine ring through the carbon atom.

The Examiner alleged that groups I-XXII are directed to structurally dissimilar compounds such that the variable core created by the varying definitions of R_3 in the first formula and the second formula do not belong to a recognized class of chemical compounds in the art, and references anticipating one invention, would not render obvious the others, for example piperidine is different from a tricyclic spiroazepine, heterocyclic substituted diazepine, aliphatic moiety, etc. and thus that separate searches in the literature as well as in the U.S. Patent Classification System would be required. The Examiner stated that each group's compounds are made and used independently of each other and could support separate patents. The Examiner further alleged that compounds differ significantly in chemical structures, and one skilled in the art would not

consider such diverse structures as functional equivalents of each other.

The Examiner stated that applicants are advised that the reply to this requirement to be complete must include an election of the invention and a species within the elected invention to be examined even though the requirement be traversed.

In response to this restriction requirement, applicants hereby elect, with traverse, to prosecute the invention of Group I. Applicants further elect, with traverse, compound number 17 as the elected species. Applicants maintain that the amendments to claims 13, 16 and 17, and new claims 53-58 are directed to the invention of Group I.

Applicant notes that 35 U.S.C. 121 states, in part, that "[i]f two or more independent and distinct inventions are claimed in one application, the Commissioner may require the application to be restricted to one of the inventions." [Emphasis added]. Applicants request that the restriction requirement be withdrawn in view of the fact that the claims of the Groups I-XXII are not independent. Under M.P.E.P. §802.01 "independent' means "there is no disclosed relationship between the ... subjects disclosed, that is, they are unconnected in design, operation, or effect... ." The claims of Groups I-XXII are related in that they are drawn to pyrimidinines and their uses.

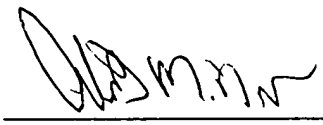
Applicants therefore respectfully asserts that two independent and distinct inventions have not been claimed in the subject application because the groups are not independent under M.P.E.P. §802.01. Therefore, restriction is improper under 35 U.S.C. §121.

Accordingly, in view of the preceding remarks, applicants respectively requests that the Examiner reconsider and withdraw the requirement for restriction.

If a telephone conference would be of assistance in advancing prosecution of the subject application, applicants' undersigned attorney invites the Examiner to telephone him at the number provided below.

No fee, other than the enclosed $514.00 fee ($54.00 filing fee plus $460.00 for a three month extension of time) is deemed necessary in connection with the filing of this Amendment. However, if another fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,



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Alan D. Miller
Registration No. 42,889
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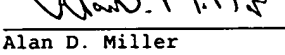
(212) 278-0400

I hereby certify that this correspondence is being deposited this date with the U.S. Postal Service with sufficient postage as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231.



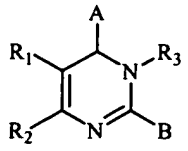
Alan D. Miller — Date
Reg. No. 42,889

Marked-up Version of Amended Claims

Additions to the text are indicated by underlining; deletions are indicated by square brackets.

In the Claims

--13. (Amended) A compound having the structure



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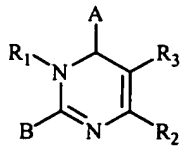
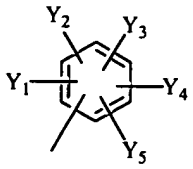


;

wherein A is



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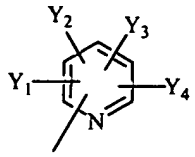

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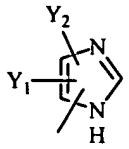

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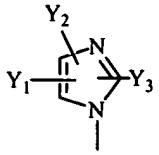

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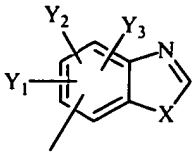

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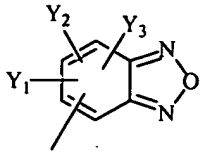

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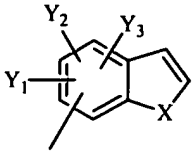


;

wherein each of Y_1, Y_2, Y_3, Y_4 and Y_5 is independently -H; straight chained or branched C_1-C_7 alkyl, monofluoroalkyl or polyfluoroalkyl; straight chained or branched C_2-C_7 alkenyl or alkynyl; C_3-C_7 cycloalkyl, monofluorocycloalkyl, polyfluorocycloalkyl or cycloalkenyl; -F, -Cl, -Br, or -I; $-NO_2$; $-N_3$; -CN; $-OR_4$, $-OCOR_4$, $-COR_4$, $-CONHR_4$, $-CON(R_4)_2$, or $-COOR_4$; or any two of Y_1, Y_2, Y_3, Y_4 and Y_5 present on adjacent carbon atoms can constitute a methylenedioxy group;

wherein X is S; O; or NR_3;

wherein B is -H; straight chained or branched C_1-C_7 alkyl, monofluoroalkyl or polyfluoroalkyl; alkoxy or thioalkyl; straight chained or branched C_2-C_7 alkenyl; $-SCH_2C_6H_4OR_4$, $-CH_2OCH_3$, $-(CH_2)_nC_6H_5$, $-CH_2X(CH_2)_nNHR_4$; $-(CH_2)_nNHR_4$; or $-OR_4$;

wherein R_1 is -H; $-NO_2$; -CN; straight chained or branched C_1-C_7 alkyl, monofluoroalkyl or polyfluoroalkyl; straight chained or branched C_2-C_7 alkenyl or alkynyl; C_3-C_7 cycloalkyl, monofluorocycloalkyl, polyfluorocycloalkyl or cycloalkenyl; $-N(R_4)_2$; $-OR_4$; $-(CH_2)_pOR_4$; $-COR_4$; $-CO_2R_4$; or $-CON(R_4)_2$;

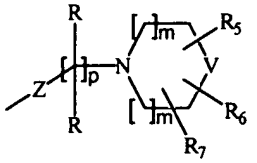
wherein R_2 is -H; straight chained or branched C_1-C_7 alkyl, hydroxyalkyl, alkoxyalkyl, aminoalkyl, monofluoroalkyl or polyfluoroalkyl; straight chained or branched C_2-C_7 alkenyl or alkynyl; C_3-C_7 cycloalkyl, monofluorocycloalkyl, polyfluorocycloalkyl or cycloalkenyl; C_3-C_{10} cycloalkyl-C_1-C_{10}-alkyl, C_3-C_{10} cycloalkyl-C_1-C_{10}-monofluoroalkyl or C_3-C_{10} cycloalkyl-C_1-C_{10}-polyfluoroalkyl; -CN; $-CH_2XR_3$,

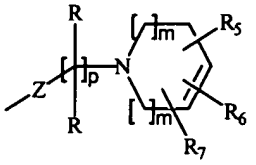
$-CH_2X(CH_2)_pNHR_3$, $-(CH_2)_nNHR_3$, $-CH_2X(CH_2)_pN(R_3)_2$, $-CH_2X(CH_2)_pN_3$, or $-CH_2X(CH_2)_pNHCXR_7$; or $-OR_3$;

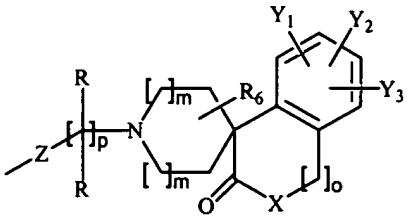
wherein each p is independently an integer from 1 to 7;

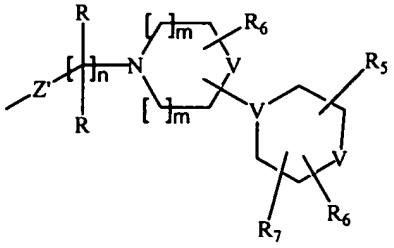
wherein each n is independently an integer from 0 to 5;

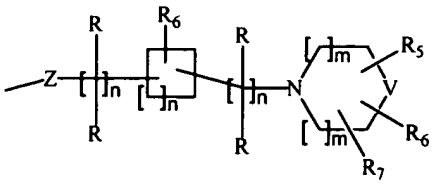
wherein R_3 is

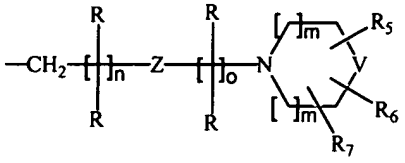


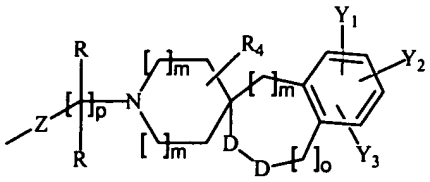












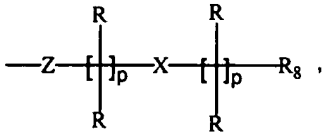
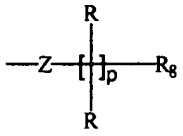
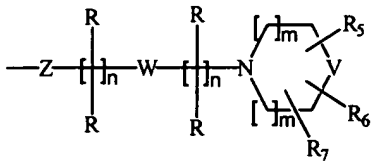


EXHIBIT 1
Wai C. Wong, et al.
Serial No.: 09/855,597
Filed: May 15, 2001
page 4





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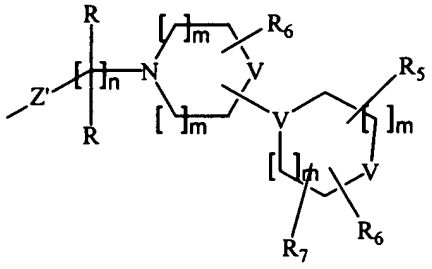


wherein Z is C_2 -C_7 alkenyl or alkynyl; CH_2; O; CO; CO_2; $CONR_3$; S; SO; SO_2; or NR_3;

wherein Z' is $(CH_2)_o$, CO, $(CH_2)_oCO$, or $CO(CH_2)_o$;

wherein each D is independently CH_2; O; S; NR_3; CO; or CS;

wherein W is C=O; $C=NOR_3$; substituted or unsubstituted

phenyl, pyridyl, thiophenyl, furanyl, pyrazinyl, [pyrryl] pyrrolyl, naphthyl, indolyl, imidazolyl, benzfurazanyl, benzfuranyl or [benzyimidazolyl] benzimidazolyl, wherein the phenyl, pyridyl, thiophenyl, furanyl, pyrazinyl, [pyrryl] pyrrolyl, naphthyl, indolyl, imidazolyl, benzfurazanyl, benzfuranyl or [benzyimidazolyl] benzimidazolyl is substituted with -H, -F, -Cl, -Br, -I, $-NO_2$, -CN, straight chained or branched C_1-C_7 alkyl, straight chained or branched C_1-C_7 monofluoroalkyl, straight chained or branched C_1-C_7 polyfluoroalkyl, straight chained or branched C_2-C_7 alkenyl, straight chained or branched C_2-C_7 alkynyl, C_3-C_7 cycloalkyl, C_3-C_7 monofluorocycloalkyl, C_3-C_7 polyfluorocycloalkyl, C_3-C_7 cycloalkenyl, $-N(R_3)_2$, $-OR_3$, $-COR_3$, $-CO_2R_3$, or $-CON(R_3)_2$;

wherein each V is independently O; S; CH_2; CR_5R_7; $C(R_7)_2$; or NR_7;

wherein each m is independently an integer from 0 to 3;

wherein o is an integer from 1 to 3;

wherein each R is independently -H; -F; straight chained or branched C_1-C_7 alkyl, monofluoroalkyl or polyfluoroalkyl; straight chained or branched C_2-C_7 alkenyl or alkynyl; $-N(R_4)_2$; $-NO_2$; -CN; $-CO_2R_4$; or $-OR_4$;

wherein each R_4 is independently -H; straight chained or branched C_1-C_7 alkyl, monofluoroalkyl or polyfluoroalkyl; straight chained or branched C_2-C_7 alkenyl or alkynyl; C_3-C_7 cycloalkyl, monofluorocycloalkyl, polyfluorocycloalkyl or cycloalkenyl;

wherein R_5 and R_7 each independently may be -H; F; Cl; Br; I; $-CO_2CH_3$; -CN; $-NO_2$; straight chained or branched C_1-C_7 alkyl, aminoalkyl, carboxamidoalkyl; straight chained or branched C_2-C_7 alkenyl or alkynyl, C_3-C_7 cycloalkyl or cycloalkenyl; wherein the alkyl, aminoalkyl, carboxamidoalkyl, alkenyl, alkynyl, cycloalkyl or cycloalkenyl may be substituted with one or more aryl or heteroaryl, wherein the aryl or heteroaryl may be substituted with -F; -Cl; -Br; -I; $-NO_2$; -CN; C_1-C_3 alkyl or carboxamidoalkyl; aryl or heteroaryl, wherein the aryl or heteroaryl may be substituted with one or more -F; -Cl; -Br; -I; $-NO_2$; CN; straight chained or branched C_1-C_7 alkyl, monofluoroalkyl or polyfluoroalkyl, straight chained or branched C_2-C_7 alkenyl, C_2-C_7 alkynyl; C_3-C_7 cycloalkyl, monofluorocycloalkyl, polyfluorocycloalkyl or cycloalkenyl;

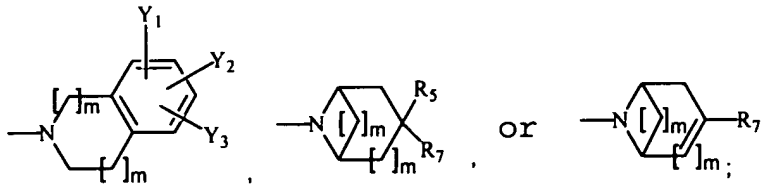
[wherein R_5 is aryl or heteroaryl substituted with one or more F; Cl; Br; I; COR_3; CO_2R_3; $-CON(R_3)_2$; CN; $-NO_2$; $-N(R_3)_2$; $-OR_3$; $-SR_3$; $(CH_2)_oOR_3$; $(CH_2)_oSR_3$; straight chained or branched C_1-C_7 alkyl, monofluoroalkyl, polyfluoroalkyl, aminoalkyl, or carboxamidoalkyl; straight chained or branched C_2-C_7 alkenyl, C_2-C_7 alkynyl; C_3-C_7 cycloalkyl, monofluorocycloalkyl, polyfluorocycloalkyl, or cycloalkenyl;]

wherein each R_6 is independently -H; straight chained or branched C_1-C_7 alkyl, hydroxyalkyl, aminoalkyl, alkoxyalkyl, monofluoroalkyl or polyfluoroalkyl; straight chained or branched C_2-C_7 alkenyl or alkynyl; C_3-C_7 cycloalkyl, monofluorocycloalkyl, polyfluorocycloalkyl or cycloalkenyl; or $-OR_4$; and

[wherein R_7 is aryl or heteroaryl substituted with one or more F; Cl; Br; I; COR_3; CO_2R_3; $-CON(R_3)_2$; CN; $-NO_2$; $-N(R_3)_2$; $-OR_3$; $-SR_3$; $(CH_2)_oOR_3$; $(CH_2)_oSR_3$; straight chained or branched C_1-C_7 alkyl, monofluoroalkyl, polyfluoroalkyl, aminoalkyl, or carboxamidoalkyl; straight chained or branched C_2-C_7 alkenyl, C_2-C_7 alkynyl; C_3-C_7 cycloalkyl, monofluorocycloalkyl, polyfluorocycloalkyl, or cycloalkenyl;]

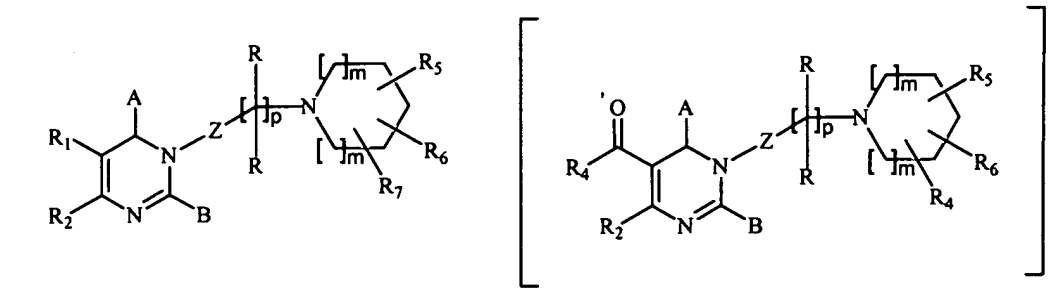
wherein R_8 is -H; substituted or unsubstituted benzyl, benzoyl, phenyl, pyridyl, thiophenyl, furanyl, pyrazinyl, [pyrryl] pyrrolyl, naphthyl, indolyl, imidazolyl, benzfurazanyl, benzfuranyl, benzimidazolyl or 2-keto-1-benzimidazolinyl, wherein the benzyl, benzoyl, phenyl, pyridyl, thiophenyl, furanyl, pyrazinyl, [pyrryl] pyrrolyl, naphthyl, indolyl, imidazolyl, benzfurazanyl, benzfuranyl, benzimidazolyl or 2-keto-1-benzimidazolinyl is substituted with -H, -F, -Cl, -Br, -I, $-NO_2$, -CN, straight chained or branched C_1-C_7 alkyl, straight chained or branched C_1-C_7 monofluoroalkyl, straight chained or branched C_1-C_7 polyfluoroalkyl, straight chained or branched C_2-C_7 alkenyl, straight chained or branched C_2-C_7 alkynyl, C_3-C_7 cycloalkyl, C_3-C_7 monofluorocycloalkyl, C_3-C_7 polyfluorocycloalkyl, C_3-C_7 cycloalkenyl, $-N(R_3)_2$, $-OR_3$, $-COR_3$, $-CO_2R_3$, or $-CON(R_3)_2$; substituted or unsubstituted straight chained or branched C_1-C_7 alkyl, monofluoroalkyl or polyfluoroalkyl; substituted or unsubstituted straight chained or branched C_2-C_7 alkenyl or alkynyl; C_3-C_7 cycloalkyl or cycloalkenyl, wherein the alkyl, monofluoroalkyl, polyfluoroalkyl, alkenyl, alkynyl, cycloalkyl or cycloalkenyl is substituted with -H, phenyl, pyridyl, thiophenyl, furanyl, pyrazinyl, [pyrryl] pyrrolyl, naphthyl, indolyl, imidazolyl, benzfurazanyl, benzfuranyl,

benzimidazolyl, $-N(R_3)_2$, $-NO_2$, $-CN$, $-CO_2R_3$, $-OR_3$;



or a pharmaceutically acceptable salt thereof.

--16. (Amended) The compound of claim 13 having the structure:



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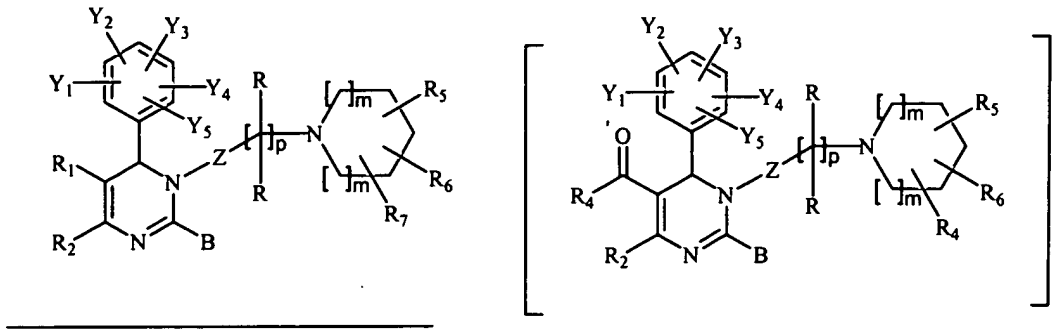
--17. (Amended) The compound of claim 16 having the structure:



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